

# **A PROCESS FOR HIGH FIDELITY SOUND RECORDING AND REPRODUCTION OF MUSICAL SOUND**

## **ABSTRACT OF THE DISCLOSURE**

A local performance simulation system simulates an ensemble sound pattern. The simulation system includes a signal generation system for simultaneously generating contact recording signals based on vibrations from the ensemble, where the ensemble produces an ensemble sound pattern. A signal processing system channelizes the contact recording signals and generates final instrument signals based on the channelized contact recording signals. The simulation system further includes a reproduction system with dedicated loudspeaker systems for generating audible sound waves based on the final instrument signals, where the sound waves simulate the ensemble sound pattern. Contact recording the vibrations and channelizing the contact recording signals eliminates all reverberation and reflection effects of the recording environment from the contact recording signals. Using a dedicated loudspeaker system for each instrument in the ensemble allows the simulation system to capture the reflection and reverberation effects of the listening environment, and creates the impression that the ensemble is present in the listening environment.